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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,008	04/21/2004	Taylor J. Leaming	02-AU-092 (52042)	5509
7590 Mario Donato, Jr. STMicroelectronics, Inc. 1310 Electronics Dr. Carrollton, TX 75006				
EXAMINER				
UNELUS, ERNEST				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/829,008

Applicant(s)

LEAMING, TAYLOR J.

Examiner

ERNEST UNELUS

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-13,16-35 and 38-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-13,16-35 and 38-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

RESPONSE TO AMENDMENT

Claim rejections based on prior art

1. Applicant's arguments filed 12/21/2007 have been fully considered but they are not persuasive.

The applicant argues that the Maier reference, “*fails to teach all of the recitations of the independent claims as amended, and that the remaining prior art of record fails to properly provide the noted deficiencies*”

This argument is not persuasive because fig. 1 of Maier discloses a bus between the device and the host, as amended by the applicant. With respect to “*based upon allocations of system bus bandwidth to the device communicating with the host device over the system bus*” (see fig. 1, which discloses communication between the device and the host and paragraph 0055 of Maier, which discloses, “in a second enumerating step ENUM2, the USB host enumerates the USB device. As illustrated in FIG. 2, only the descriptors (II) associated to the services (S1, S2, S3) which have been activated and the descriptor associated to the standard service (S0) will be retrieved”. Maier discloses a negotiation flag (see par. 0041), which is being use as a metric. The metric exceeding a threshold is the negotiation flag moving from not active-to-active. As stated in paragraphs (steps) 0042 to 0049, the negotiation flag getting to an active state is exceeding a threshold. See also fig. 2 of Lu, which discloses multiple devices (cards 201cs) communicating with a host device).

INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in 37 C.F.R. 1.63.

INFORMATION CONCERNING DRAWINGS

Drawings

3. The applicant's drawings submitted are acceptable for examination purposes.

REJECTIONS BASED ON PRIOR ART

Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1, 2, 5-13, 16-35, and 38-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier (US 2005/0251596) in view of Lu et al. (2005/0108571).
6. As per **claims 1, 12, and 34**, Maier discloses "An integrated circuit for a smart card (**USB device in fig. 1**) and comprising:

at least one data terminal for providing communications with a host device (see fig. 1, **which discloses communication between the smart card and host device**) over a system bus (the USB bus, as discloses in fig. 1); and

a processing system providing an attachment signal on the at least one data terminal for recognition by the host device (see fig. 1 and paragraph 0043),

cooperating with the host device to perform an enumeration based upon at least one default descriptor [descriptors (I)] (paragraph 0043 discloses “in a first enumerating step ENUM1, the USB host will enumerate the USB device. In other words, as illustrated in FIG. 2, the USB host will retrieve from the USB device to the USB host only the descriptors (I) associated to the standard service SO and to the mass storage service S1”), and

selectively removing the attachment signal from the at least one data terminal and thereafter again providing the attachment signal on said at least one data terminal and cooperating with the host device to perform a new enumeration based (ENUM2, as discloses in paragraph 0055) upon at least one alternate descriptor [descriptors (II)] (see paragraph 0055), based upon allocations of system bus bandwidth to the device communicating with the host device over the system bus (see above, **which discloses the negotiation flag and fig. 1, which discloses communication between the device and the host**).

Maier discloses the functionality of the smart card and fail to specifically discloses the structure of the card and more than one other devices.

However, LU discloses smart card to be an integrated circuit having a transceiver, a processor and descriptors. For example, as evidence in para. 0004, Lu discloses, “An example of such a resource-constrained device is the smart card. A smart card is simply a

plastic card containing an integrated circuit with some memory and a microprocessor. Typically the memory is restricted to 6K bytes of RAM. It is anticipated that smart card RAM may increase by a few kilobytes over the next few years. However, it is very likely that memory size will continue to be an obstacle to smart card applications. Most smart cards have 8-bit microprocessors". See also paragraph 0006, which discloses an interface of the card. In regards to "*based upon allocations of system bus bandwidth to the device communicating with the host device over the system bus*", see fig. 2 of Lu, which discloses multiple devices (cards 201cs) communicating with a host device.

Maier (US 2005/0251596) and Lu et al. (US 2005/0108571) are analogous art because they are from the same field of endeavor of communication between a smart card and a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the system comprising a main device and an auxiliary device arranged to cooperate with each other as taught by Maier and an infrastructureless resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructureless resource-constrained device as taught by Lu.

The motivation for doing so would have been because Lu teaches, ("an infrastructureless resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructureless resource-constrained device. Such infrastructureless resource-constrained devices can easily be

adapted so that the resource-constrained device can provide many of the functions traditionally associated with full-fledged network nodes” (see paragraph 0022).

Therefore, it would have been obvious to combine Maier (US 2005/0251596) and Lu et al. (2005/0108571) for the benefit of creating a smart card to communicate with a host to obtain the invention as specified in claims 1, 12, and 34.

7. As per **claims 2, 13, 24, and 35**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” [See rejection to claim 1 above] Maier further discloses “wherein further comprising at least one power terminal connected to said processor, and wherein said processor receives power via said at least one power terminal during removal of the attachment signal (see paragraph 0013, which discloses power going through the device).

8. As per **claims 5, 16, and 38**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” [See rejection to claim 1 above] Maier further discloses “wherein said processor monitors communications with the host device during removal of the attachment signal” (see paragraph 0034, which discloses monitoring of communication by the USB device).

9. As per **claims 6, 17, 28, and 39**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” [See rejection to claim 1 above] Maier further discloses “wherein the at least one alternate descriptor comprises at least one device descriptor (see paragraph 0008).

10. As per **claims 7, 18, 29, and 40**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” **[See rejection to claim 1 above]** Maier further discloses “wherein the at least one alternate descriptor comprises at least one configuration descriptor (**see paragraph 0009**).

11. As per **claims 8, 19, 30, and 41**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” **[See rejection to claim 1 above]** Maier further discloses “wherein the at least one alternate descriptor comprises at least one interface descriptor (**see paragraph 0010**).

12. As per **claims 9, 20, 31, and 42**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” **[See rejection to claim 1 above]** Maier further discloses “wherein the at least one alternate descriptor comprises at least one endpoint descriptor (**see paragraph 0011**).

13. As per **claims 10, 21, 32, and 43**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” **[See rejection to claim 1 above]** Maier further discloses “wherein said at least one data terminal comprises first and second data terminals for differential data signals” (**see fig. 2 and Paragraph 0058**).

14. As per **claims 11, 22, and 33**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” **[See rejection to claim 1 above]** Lu further discloses comprising a USB

transceiver connected between said processor and said at least one data terminal (**see paragraph 0022**).

15. As per **claims 23 and 25**, Maier discloses “A smart card system (**see fig. 1**) comprising:

a host device (**USB host device in fig. 1**);

a smart card (**USB device of fig. 1**) body to be read by said smart card adapter and comprising a smart card body and an integrated circuit carried by said smart card body, said integrated circuit comprising

at least one data terminal for providing communications with a host device (**see fig. 1, which discloses communication between the smart card and host device**); and a processing system providing an attachment signal on the at least one data terminal for recognition by the host device (**see fig. 1**), cooperating with the host device to perform an enumeration based upon at least one default descriptor [**descriptors (I)**] (**see paragraph 0043 discloses “in a first enumerating step ENUM1, the USB host will enumerate the USB device. In other words, as illustrated in FIG. 2, the USB host will retrieve from the USB device to the USB host only the descriptors (I) associated to the standard service SO and to the mass storage service S1”**), and

and based upon a system utilization metric exceeding a threshold (**with respect to this limitation, paragraph 0015 from the applicant’s specification discloses “In such case, the system utilization metric may indicate that bus utilization is above a threshold, which would prompt the processor to re-enumerate using one or more alternate descriptors that would allow it to more efficiently utilize the limited bandwidth”**. Similarly, Maier discloses, in paragraph 0055, “in a second enumerating step ENUM2, the USB host enumerates the

USB device. As illustrated in FIG. 2, only the descriptors (II) associated to the services (S1, S2, S3) which have been activated and the descriptor associated to the standard service (S0) will be retrieved". Maier discloses a negotiation flag (see par. 0041), which is being use as a metric. The metric exceeding a threshold is the negotiation flag moving from not active-to-active. As stated in paragraphs (steps) 0042 to 0049, the negotiation flag getting to an active state is exceeding a threshold), selectively removing the attachment signal from the at least one data terminal and thereafter again providing the attachment signal on said at least one data terminal and cooperating with the host device to perform a new enumeration (ENUM2) based upon at least one alternate descriptor [descriptors (II)]". (see paragraph 0055), the system utilization metric based upon a device communicating with the host device (see above, which discloses the negotiation flag and fig. 1, which discloses communication between the device and the host).

Maier discloses the functionality of the smart card and fail to specifically disclose the structure of the card, more than one other device, and a smart card adapter connected to the host.

However, LU discloses a smart card to be an integrated circuit having a transceiver, a processor and descriptors. For example, as evidence in para. 0004, Lu discloses, "An example of such a resource-constrained device is the smart card. A smart card is simply a plastic card containing an integrated circuit with some memory and a microprocessor. Typically the memory is restricted to 6K bytes of RAM. It is anticipated that smart card RAM may increase by a few kilobytes over the next few years. However, it is very likely that memory size will continue to be an obstacle to smart card applications. Most smart

cards have 8-bit microprocessors”. See also paragraph 0006, which discloses an interface of the card. See also paragraph 0086, which discloses “[“The smart card reader 215(6b) provides an implementation of the Peer I/O Server 613(6b), described in greater detail herein below. The smart card reader 215(6b) connects to the smart card 201(6b) through an ISO standard half-duplex I/O interface and to a host computer 217(6b) via a standard full-duplex I/O interface 607. Because the smart card reader 215(6b) completely handles the ISO 7816 protocol, and connects to the host computer 217(6b) using standard serial protocol, no additional software, beyond that which is normally found on a PC, is needed on the host PC 217(6b)”]. In regards to “the system utilization metric based upon a number of other devices communicating with the host device’, see fig. 2 of Lu, which discloses multiple devices (cards 201cs) communicating with a host device.

Maier (US 2005/0251596) and Lu et al. (US 2005/0108571) are analogous art because they are from the same field of endeavor of communication between a smart card and a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the system comprising a main device and an auxiliary device arranged to co-operate with each other as taught by Maier and an infrastructureless resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructureless resource-constrained device as taught by Lu.

The motivation for doing so would have been because Lu teaches, (“an infrastructureless resource-constrained device, for example, a smart card, capable of acting

as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructureless resource-constrained device. Such infrastructureless resource-constrained devices can easily be adapted so that the resource-constrained device can provide many of the functions traditionally associated with full-fledged network nodes” (see paragraph 0022).

Therefore, it would have been obvious to combine Maier (US 2005/0251596) and Lu et al. (2005/0108571) for the benefit of creating a smart card to communicate with a host to obtain the invention as specified in claims 23 and 25.

16. As per **claim 26**, the combination of Maier and Lu discloses “The smart card system of claim 23,” [See rejection to claim 23 above] Maier further discloses “wherein the system event comprises the occurrence of attempted unauthorized communications” **(with respect to this limitation, paragraph 0048 from the applicant’s specification discloses “Another example of a system event which may trigger a new enumeration is the occurrence of attempted unauthorized communications, at Block 61’, such as would be the case when someone attempts to eavesdrop or hack into the system 20.”. Similarly, Maier discloses, in paragraph 0019, “In addition, an Internet Service Provider can, for example, define its own proprietary login application and store it on the Smart Card itself (USB device). The risk of hacking the login application is therefore reduced”).**

17. As per **claim 27**, the combination of Maier and Lu discloses “The smart card system of claim 23,” [See rejection to claim 23 above] Maier further discloses “wherein said processor monitors communications with the host device during removal of the attachment signal” **(with**

respect to this limitation, see Maier, paragraph 0034, which discloses monitoring of communication by the USB device).

18. As per **claim 44**, the combination of Maier and Lu discloses “The integrated circuit of claim 1,” [See **rejection to claim 1 above**] Maier further discloses “wherein the smart card operate in a universal serial bus (USB) mode” (**Paragraph 0077 discloses the USB device using different protocol such as firewire, which is a Universal Serial Bus version 2.0 (USB).**

RELEVANT ART CITED BY THE EXAMINER

19. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant’s art and those arts considered reasonably pertinent to applicant’s disclosure. See **MPEP 707.05(c)**.

20. The following reference teaches a USB smart card in communication with a USB host.

U.S. PATENT NUMBER

US 2003/0229745

CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

21. The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

22. Per the instant office action, claims 1, 2, 5-13, 16-35, and 38-44 have received a final action on the merits.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

b. DIRECTION OF FUTURE CORRESPONDENCES

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is (571) 272-8596. The examiner can normally be reached on Monday to Friday 9:00 AM to 5:00 PM.

IMPORTANT NOTE

19. If attempts to reach the above noted Examiner by telephone is unsuccessful, the Examiner's supervisor, Mr. Alfred Kindred, can be reached at the following telephone number: Area Code (571) 272-4037.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained

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from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 8, 2008

Ernest Unelus
Examiner, Art Unit 2181

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181